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## S P E C I F I C A T I O N

## 1. Title of the Invention

## HOLOCATHODE LAMP

## 2. What Is Claimed Is:

- (1) A holocathode lamp characterized in that an identification element capable of performing electrical, mechanical, magnetic, or optical identification is adhered or fixed to part of an outer portion.
- (2) An atomic absorption spectroscopy apparatus characterized by comprising means for reading the identification element defined in claim 1.

## 3. Detailed Description of the Invention

The present invention relates to an improvement of a holocathode lamp in an atomic absorption spectroscopy apparatus or the like, and an improvement of the atomic absorption spectroscopy apparatus.

In an atomic absorption spectroscopy apparatus, light from a light source 1 (a holocathode lamp is generally used) for emitting light having a specific wavelength, as shown in Fig. 1, is transmitted through a sample 2 prepared in an atomic level. A spectroscope 3 selects light of a specific wavelength from the transmitted light. An optical detector 4 detects the light of the specific wavelength. A linearization

circuit 5 converts the output from the optical detector 4 into a signal proportional to the amount of element of interest in the sample. This apparatus utilizes the nature in which an element serving as a measurement target particularly absorbs light of a specific wavelength. For this reason, the wavelength and hence the light source itself must be replaced depending on the type of measurement target. The user of the atomic absorption spectroscopy apparatus must always prepare 10-odd types of light sources.

Since light sources are almost identical in outer shapes and internal structures, the user of the atomic absorption spectroscopy apparatus determines the types of these light sources by checking labels attached to their side surfaces. It is impossible for the apparatus itself to automatically determine the type of light source. This interferes with automatic initial settings (settings for a current and wavelength applied to a light source) of the apparatus. It is an object of the present invention to allow automatic identification of the types of light sources by an electrical or mechanical means, thereby eliminating the conventional drawback. The present invention will be described below with reference to the accompanying drawing.

Fig. 2 shows an embodiment of the present invention. An identification element 6 capable of

performing electrical, optical, magnetic, or mechanical reading is adhered or fixed to a general holocathode lamp 1. An atomic absorption spectroscopy apparatus is comprised of a detection element 7 and detection circuit 8, which can detect the contents of the identification element. The identification element and detection element can be a combination of a mechanical undulation and switch, a magnetic tape and magnetic head, a printed sheet and optical reading element, or the like.

By providing such a means, the apparatus can automatically identify the type of holocathode lamp currently attached and prevent attaching errors by which the user forgets to attach a holocathode lamp or attaches a wrong holocathode lamp.

As can be apparent from the above description, according to the effects of the present invention, there can be implemented an atomic absorption spectroscopy apparatus capable of automatically identifying the type of holocathode lamp currently attached, thereby allowing automatic initial settings of the apparatus. In addition, the apparatus can prevent attaching errors by which the user forgets to attach a holocathode lamp or attaches a wrong holocathode lamp.

#### 4. Brief Description of the Drawings

Fig. 1 shows a prior art, and Fig. 2 shows an embodiment of the present invention.

- 1...holocathode lamp
- 6...identification element
- 7...detection element
- 8...detection circuit

FIG. 1

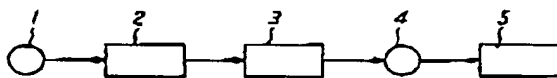


FIG. 2

